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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,430	01/23/2004	Geoffrey B. Rhoads	P0929	6076
23735 7590 11/28/2008 DIGIMARC CORPORATION 9405 SW GEMINI DRIVE BEAVERTON, OR 97008				
EXAMINER				
KRASNIC, BERNARD				
ART UNIT		PAPER NUMBER		
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11/28/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/764,430

Applicant(s)

RHOADS, GEOFFREY B.

Examiner

BERNARD KRASNIC

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Response to Arguments

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/30/2008 has been entered.
2. The application has pending claim(s) 1-11.
3. Applicant's arguments with respect to claim(s) 1-11 have been considered but are moot in view of the new ground(s) of rejection because of the Request for Continued Examination (RCE).
4. Applicant's arguments filed 10/30/2008 have been fully considered but they are not persuasive.

The Applicant alleges, "Claim 1 is amended without prejudice ..." in page 4, and states respectively that claim 1 is amended to recite detection through normal ambient visible light imaging of the document without a need to use non-visible light lenses or filters and that such added features are inherently associated with the terms "visible light imaging". However the Examiner is not convinced that the Applicant has support for such language and has raised a 112 1st paragraph Written Description Rejection.

Also, the Applicant is urged to show such support in the prior filed application(s) corresponding to CON 08/508,083 7/27/1995 and PCT/US94/13366 11/16/1994 if the Applicant wants entitlement to the benefit of those priority dates because the Examiner has not found support for the amended claim limitations as is claimed in amended claim 1; if the Applicant does choose to argue this decision, it is essential that the Applicant clearly point out where the support is found and how the interpretation is being conceived.

The Applicant alleges, "This type of imaging is different ..." in page 4, and states respectively that Stephany would require special inks, UV/IR filters and/or special illumination whereas the claimed visible light imaging that requires normal ambient visible light for detection indeed does not need filters, special illumination or special inks, or special lenses. Firstly, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., special illumination or special inks) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Therefore, although Stephany does disclose that the radiation source produces a beam of radiation at a wavelength [visible light wavelength] capable of exciting fluorescence of a dye laid down to form the bar code, the amended claim doesn't recite this limitation [without a need to use special illumination or special inks] which the Applicant is arguing and therefore Stephany will still be used to disclose the broadest reasonable claim interpretation of claim 1. Also,

Stephany does disclose in the embodiment that the bar code scanning system may provide light at visible wavelengths to read the invisible bar code [see col. 2 at lines 59-61, col. 3 at lines 49-65, and specifically at col. 3 at lines 60-62; providing light at visible wavelengths]. More specifically, Stephany still teaches the amended claim 1 in that "plural-bit auxiliary data is substantially imperceptible to casual human inspection, but is detectable through normal ambient visible light imaging of the document without a need to use non-visible light lenses or filters, and processing of image data thereby produced (see col. 1 at lines 60-64, col. 2 at lines 59-61, col. 3 at lines 49-65, and specifically col. 3 at lines 60-62 [providing light at visible wavelengths], the bar code scanning system may provide light at visible wavelengths to read the invisible plural-bit auxiliary bar code).

Therefore, claims 1-11 are not in condition for allowance because they are still not patentably distinguishable over the prior art references.

Claim Rejections - 35 USC § 101

5. Claim(s) 1-11 is/are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent¹ and recent Federal Circuit decisions² indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing.

¹ *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

² *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. For example the method steps of providing the document onto a substrate and steganographically encoding are not tied to another statutory category such as a particular apparatus (i.e. a computer processor for processing the specific method steps).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The Examiner has searched the specification and has not found any evidence that the application has support for claiming the specific steps of "normal ambient visible

light imaging of the document without a need to use non-visible light lenses or filters" for example in amended independent claim 1.

The Applicant is advised to either amend the claims further or show the Examiner clear support of possession in the specification for all the amended claim limitations with respective arguments showing and indicating that possession of such claim language is actually appropriate in terms of Written Description criteria [35 U.S.C. 112, 1st paragraph].

Claims 2-11 are dependent upon claim 1.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stephany (US 5,331,140).

Re Claim 1: Stephany discloses a method comprising using an electronic application program / bar code printing and reading system to compose an electronic version of a document (see col. 1, lines 6-11, 23-28, 32-49, 60-64, the bar code printing and reading

system creates a bar code which represents information providing document identification); providing the document onto a substrate / paper type (see col. 1, lines 6-11, 23-28, 32-49, 60-64, the bar code representing the document is printed on a package, mail, or magazine), the provided substrate being steganographically encoded with plural-bit auxiliary data (see col. 1, lines 6-11, 23-28, 32-49, 60-64, the bar code which is plural-bit auxiliary data is steganographically or invisibly printed, the invisible bar code is not visible to the human eye), the steganographically encoded plural-bit auxiliary data is substantially imperceptible to casual human inspection, but is detectable through normal ambient visible light imaging of the document without a need to use non-visible light lenses or filters, and processing of image data thereby produced (see col. 1, lines 60-64, col. 2, lines 59-61, col. 3, lines 49-65, and specifically col. 3, lines 60-62 [providing light at visible wavelengths], the bar code scanning system may provide light at visible wavelengths to read the invisible plural-bit auxiliary bar code).

Although Stephany fails to specifically disclose storing at least some of the plural-bit auxiliary data in association with data identifying a location at which the electronic version of the document is stored, [*the Examiner takes Official Notice that*] it would have been obvious to one of ordinary skill in the art at the time the invention was made to have such a feature because any bar code system needs some type of memory storing a library correlating the particular bar code to its particular item [each item of merchandising goods] to be identified in order to be able to locate the representation and meaning of the bar code when the bar code is read [DeAngelis [US 4,654,482] is one example showing how a bar code read system uses a wand to read a bar code and

correlate it to a specific item] (see DeAngelis, abstract, col. 1, lines 11-16, col. 2, lines 22-28 and 50-60, the bar code [the bar code is the electronic version] which represents information providing document identification for a specific merchandising item [from a catalog for example] is scanned with a wand bar code reader that reads the bar code from the printed material and using the processor correlates the plural auxiliary bar code data to a location in this ROM and RAM memory with the corresponding recognition data for each specific merchandising item).

Re Claim 2: Stephany further discloses the providing includes steganographically encoding the provided substrate with said plural-bit auxiliary data (see col. 1, lines 6-11, 23-28, 32-49, 60-64, the bar code representing information providing document identification is steganographically or invisibly printed on a package, mail, or magazine, the invisible bar printed bar code is not visible to the human eye).

Re Claims 3-6: Although Stephany fails to specifically disclose said storing includes storing in a registry database maintained by an operating system of said computer system, wherein said storing is performed by the application program, said storing is performed by a computer system operating system, or wherein said storing is performed by a printer driver employed in printing the document onto paper, [the Examiner takes Official Notice that] it would have been obvious to one of ordinary skill in the art at the time the invention was made to have such features because any bar code system needs some type of memory [the memory may be a database run by a computer

operating system, the memory may be performed by a program within the computer operating system, the memory may be within the driver of the printer itself, etc.] storing a database or library correlating the particular bar code to its particular item to be identified in order to be able to locate the representation and meaning of the bar code when the bar code is read (DeAngelis [US 4,654,482] is one example showing how a bar code read system uses a wand to read a bar code and correlate it to a specific item and showing different means of storage). In regards to claim 3, DeAngelis teaches the storing of claim 1 including storing in a registry database maintained by an operating system of a computer system (see DeAngelis, abstract, col. 1, lines 11-16, col. 2, lines 22-28 and 50-60, the processor correlates the plural auxiliary bar code data to a location in this ROM and RAM memory with the corresponding recognition data for each specific merchandising item, this processor is considered to be part of the computer operating system which essentially has a database for the different merchandising items with their corresponding bar codes). In regards to claim 4, DeAngelis similarly teaches the storing is performed by the application program (see DeAngelis, abstract, col. 1, lines 11-16, col. 2, lines 22-28 and 50-60, the processor correlates the plural auxiliary bar code data to a location in this ROM and RAM memory with the corresponding recognition data for each specific merchandising item, this processor [which runs by a program] is considered to be part of the computer operating system). In regards to claim 5, DeAngelis similarly teaches the storing of claim 1 is performed by a computer system operating system (see DeAngelis, abstract, col. 1, lines 11-16, col. 2, lines 22-28 and 50-60, the processor correlates the plural auxiliary bar code data to a location in

this ROM and RAM memory with the corresponding recognition data for each specific merchandising item, this processor is considered to be part of the computer operating system). In regards to claim 6, DeAngelis teaches the storing of claim 1 is performed by a printer driver employed in printing the document onto a substrate (see DeAngelis, col. 1, lines 11-16, col. 2, lines 22-28, the catalog for example with the merchandising items and with their corresponding bar codes *had to be printed by a computer system which is connected to a printer system* which essentially stores the bar code electronic version providing document identification for a specific merchandising item). To further clarify the Official Notice toward claim 6, the prior art reference Petigrew et al [US 5,206,490] discloses a bar code printer for printing bar codes that are at the extremes of the visible light spectrum and that the printed ink is either invisible to the human eye or barely distinguishable over the background (see Petigrew, col. 2, lines 37-53, col. 3, lines 64-65, ink jet digital printers have drivers and memory components and therefore this invisible bar code printer needs to store what is to be printed which is the invisible bar code).

Re Claim 7: Stephany further discloses the steganographic encoding of the provided substrate comprises subtle variations in the luminance of the document (see col. 1, lines 60-64, col. 3, lines 60-65, invisible bar codes could be printed in the visible light such as while still being invisible to the casual human eye inspection).

Re Claim 8: Stephany further discloses the steganographic encoding takes the form of

tiny elements of ink or toner distributed in a pattern so light as to be essentially unnoticeable (see col. 1, lines 6-11, 23-28, 32-49, 60-64, the printer prints the steganographic or invisible bar code that is invisible to the human eye).

10. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stephany (US 5,331,140) in view of Sheng ("Experiments on pattern recognition using invariant Fourier-Mellin descriptors", 1986 Optical Society of America, pages 771-776). The teachings of Stephany have been discussed above.

Re Claim 9: However Stephany doesn't specifically suggest wherein the plural-bit auxiliary data is encoded such that decoding of the encoded plural-bit auxiliary data relies on a Fourier transform that produces data in which scale and rotation can be ignored.

Sheng discloses the plural-bit auxiliary data / pattern [the pattern being Stephany's bar code data] is encoded such that decoding of the encoded plural-bit auxiliary data relies on a Fourier transform / Fourier-Mullin that produces data in which scale and rotation can be ignored / scale and rotation invariant (see Sheng, abstract, to achieve scale and rotation invariant pattern recognition, the pattern is transformed by the Fourier-Mellin transform).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Stephany using Sheng's teachings by including

the Fourier transform manipulation of the Stephany's bar code pattern in order to have the pattern become scalably and rotationally invariant (see Sheng, abstract).

Re Claim 10: Sheng further discloses the Fourier transform comprises a Fourier-Mellin transform / Fourier-Mellin (see Sheng, abstract)

11. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stephany (US 5,331,140) in view of Petigrew et al (5,206,490).

Re Claim 11: Stephany discloses hiding bar codes on paper through printing but doesn't specifically suggest that the plural-bits of auxiliary data are steganographically encoded with *digital watermarking*.

Petigrew discloses the plural-bits of auxiliary data / bar code data are steganographically encoded / invisible to the human eye with digital watermarking / printing with ink jet digital printer (see Petigrew, col. 2, lines 33-53, col. 3, lines 64-65, the bar code is invisibly printed on the paper with an ink jet digital printer and this computer system and ink jet digital printer show that it is essentially digital watermarking).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Stephany using Petigrew's teachings by including the ink jet digital printer and microcomputer system in order to

steganographically encode digitally / digital watermarking the bar code onto a paper material (see Petigrew, col. 2, lines 33-53, col. 3, lines 64-65).

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Krasnic whose telephone number is (571) 270-1357. The examiner can normally be reached on Mon-Thur 8:00am-4:00pm and every other Friday 8:00am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jingge Wu/
Supervisory Patent Examiner, Art Unit 2624
Bernard Krasnic

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November 25, 2008